UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,472	11/23/1999	JAMES B. ARMSTRONG	SEDN/049	3863

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ART UNIT	PAPER NUMBER
2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/447,472	ARMSTRONG ET AL.
	Examiner	Art Unit
	SUMAIYA A. CHOWDHURY	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-8,19 and 21-34* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-4,6-8,19 and 21-34* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____ .
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/19/08 have been fully considered but they are not

persuasive.

(a) Applicant argues "...DeKoning is not a proper reference against the present

invention...." on page 11, 3rd paragraph of the Remarks filed 2/19/08.

Referring to Applicant's provisional application, the Applicant nowhere discloses

that a storage is divided into a primary partition and a second partition to store

frequently requested video assets and infrequently requested video assets,

respectively. On page 8 of the provisional application, Applicant discloses "...if a

content server title receives frequent requests from a single stream server or group of

stream server the content manager can decide to move the title to the stream server

thus saving network bandwidth access to this title". At most, Applicant discloses

transferring content from one server to another based on the number of requests

received for the particular content. On page 9 of the provisional application, Applicant

discloses dividing available storage on the network of servers into several buckets

where bucket one would contain the most popular titles, bucket two would contain the

next most popular titles, and so on. Applicant goes on to further teach that the "content

manager would arrange the distribution of titles such that titles from bucket one would

be on all stream servers, sufficient copies of titles from bucket two would exist in the

network given its topology to satisfy the expected requests". In other words, Applicant

discloses storing content on servers, but not specifically storing content in particular

partitions on servers. As such, the Examiner maintains the rejection filed on 11/26/07.

(b) Applicant argues "Ueno merely discloses that a service control unit..." on

page 12, 2nd paragraph of the Remarks.

Applicant has failed to refer to the section cited in the previous Office action

which indicated that the service control unit and local server may be combined into one

single physical unit (Ueno; col. 21, lines 43-54).   As a result, the combined one physical

unit will perform the functions of both the service control unit and local server.

(c) Applicant argues "Namely, with respect to claim 1..." on page 13, 3rd

paragraph of the Remarks.

Examiner did not use Hokanson to reject claim 1. Rather, Ueno and DeKoning

was used to reject claim 1.

(d) Applicant argues "Similarly, with respect to claim 19..." on page 13, 4th

paragraph of the Remarks.

Applicant is arguing the claim on a piece-meal basis; The Examiner used Ueno

and DeKoning to reject those claimed limitations. Hokanson was brought in only to

teach determining an asset request rate for each of said the video assets stored in each

head-end, and comparing the determined asset request rates with respective threshold

rates of each of the video assets.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno in view

of DeKoning (6275898).

As for claim 1, Ueno discloses in an interactive information distribution system

including a network of provider equipment (1002) and subscriber equipment (1008,

1009), apparatus comprising:

a plurality of head-ends (1001, 1005, 1006, fig. 10) coupled to subscriber

equipment (STUs, 1010-1013) via an access network (1008), the head-ends coupled to

each other via an inter-server network (1002), each of said the head-ends comprising:

a server (1001, 1005, 1006) for distributing requested video assets to requesting

subscriber equipment via the access network (col. 18, lines 21-30, lines 58-63);

However, Ueno fails to teach:

a storage having a primary storage partition for storing frequently requested

video assets, and a secondary storage partition for storing infrequently requested video

assets, the infrequently requested video assets being distributed amongst said the

secondary partitions of the storage; and

a manager for managing migration of video assets, wherein the manager tracks

asset request rates and threshold rates of respective video assets;

wherein the manager, in response to an infrequently requested video asset

becoming frequently requested, selects ones of the storage to store the frequently

requested video asset and transmits the frequently requested video asset to the

selected ones of the storage devices for storage in associated primary storage

partitions;

wherein the manager, in response to a frequently requested video asset

becoming infrequently requested, selects one of the storage devices to store the

infrequently requested video asset and provides the infrequently requested video asset

to the selected one of the head-ends for storage in an associated secondary storage

partition.

In an analogous art, DeKoning teaches:

a storage (108) having a primary storage partition (RAID 1) for storing frequently

requested video assets, and a secondary storage partition (RAID 3 or 5) for storing

infrequently requested video assets, the infrequently requested video assets being

distributed amongst said the secondary partitions of the storage – (Storage devices 108

consists of separate partitions for frequently requested data (hot data) and infrequently

requested data (cold data). The cold data is stored at each of the secondary partitions

at the storage devices 108. – col. 8, line 64-col. 9, line 30, col. 10, lines 6-14, col. 6, lines 20-30); and

a manager for managing migration of video assets, wherein the manager tracks asset request rates and threshold rates of respective video assets (col. 11, lines 42-45, col. 10, lines 6-14, col. 4, lines 4-24, col. 9, lines 8-30);

wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects ones of the storage to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the storage for storage in associated primary storage partitions– col. 8, line 64-col. 9, line 30;

wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the storage to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the storage in an associated secondary storage partition– col. 8, line 64-col. 9, line 30.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Ueno's invention to include the above mentioned limitation, as taught by DeKoning, for the advantage of configuring the storage device to match consumer demand.

4. Claims 2-4, 6-8, 19, 21-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno in view of DeKoning and Hokanson.

As for claim 2, DeKoning teaches determining when a partition is frequently or

infrequently accessed but Ueno and DeKoning fail to explicitly teach:

the manager identifies an infrequently requested video asset as becoming frequently

requested when said the asset request rate crosses above said the threshold rate; and

the manager identifies a frequently requested video asset as becoming infrequently

requested when said the asset request rate crosses below said the threshold rate.

In an analogous art, Hokanson teaches:

the manager identifies an infrequently requested video asset as becoming frequently

requested when said the asset request rate crosses above said the threshold rate; and

the manager identifies a frequently requested video asset as becoming infrequently

requested when said the asset request rate crosses below said the threshold rate.

It would have been obvious to one of ordinary skill in the art at the time of

applicant's invention to modify Ueno and DeKoning's invention to include the above

mentioned limitation, as taught by Hokanson, for the advantage of configuring the

storage device to match consumer demand.

As for claim 3, DeKoning teaches in response to a request for a video

asset received from requesting subscriber equipment, the manager

controls distribution of the requested video asset from-one of the head-ends identified

as storing the requested video asset to the requesting subscriber equipment (col. 10,

lines 53-63).

As for claims 4 and 22, Ueno teaches thee manager comprises:

a content manager, for receiving the request for the video asset and
determining whether the requested video asset is stored locally in the storage of that
head-end (1005, col. 19, lines 37-43) at which the video asset request is received (local
server 1005 and service control unit 1007 are a single unit; col. 21, lines 43-52) or
stored remotely in the storage of a different head-end; a stream session manager, for
directing the associated server to distribute streams of video assets to subscriber
equipment requesting said the video assets; and a content session manager, for
responding to video asset requests forwarded from managers of other ones of the head-
ends (col. 19, lines 20-55).

As for claim 6, Ueno teaches wherein a content manager of a local head-end at
which a video asset request is received, in response to determining that a requested
video asset is stored locally, notifies the stream session manager to deliver the
requested video asset to the local server for transmission by the local server to the
requesting subscriber equipment via the access network (col. 19, lines 20-55).

As for claim 7, Ueno teaches wherein the content manager of a local head-end at
which a video asset request is received, in response to determining that a requested
video asset is stored remotely in the storage of a remote head-end, instructs the stream
session manager of the local head-end to contact the content session manager of the

remote head-end (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

As for claim 8, Ueno teaches wherein the content session manager of the remote head-end identifies the requested video asset in the storage of the remote head-end, allocates bandwidth for transmitting the requested video asset, and, in response to a determination that the requested video asset is to be provided from the remote head-end to the requesting subscriber equipment via the local head-end, notifies the server of the remote head-end to transmit the requested video asset to the local head-end using the inter-server network - col. 21, lines 43-50, col. 19, lines 20-50, col. 18, lines 21-57.

Claim 19 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim. Claim 19 additionally calls for the following which Ueno and DeKoning fail to teach:

determining an asset request rate for each of said the video assets stored in each head-end; comparing the determined asset request rates with respective threshold rates of each of the video assets;

In an analogous art, Hokanson teaches:

determining an asset request rate for each of said the video assets stored in each head-end; comparing the determined asset request rates with respective threshold rates of each of the video assets – col. 11, lines 5-40;

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Ueno and DeKoning's invention to include the above mentioned limitation, as taught by Hokanson, for the advantage of configuring the storage device to match consumer demand.

Claim 21 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim.

As for claims 23 and 27, Ueno discloses wherein the identified head-end is the local head-end (1005) coupled directly to the requesting subscriber equipment, the local head-end provides the requested video asset to the requesting subscriber equipment via the access network (1008) – col. 19, lines 20-50, col. 21, lines 43-53.

As for claims 24 and 28, Ueno discloses wherein, the identified head-end is one of the remote head-ends, the local head-end requests the requested video asset from the remote head-end and the remote head-end provides the requested video asset to the local head-end via an inter-server network (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is

stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at

server 1001, the video is requested from there and transmitted to the user).

Claim 25 contains the limitations of claims 1 and 4 and is analyzed as previously

discussed with respect to those claims.

Claim 26 contains the limitations of claims 1, 23, and 24 and is analyzed as

previously discussed with respect to those claims.

As for claim 29, Ueno discloses wherein the content session manager of the

remote head-end identifies the requested video asset in the storage of the remote head-

end and allocates bandwidth for transmitting the requested video asset (When a user

requests a VOD program, bandwidth is allocated. – col. 18, lines 21-57, col. 19, lines

20-56).

As for claim 30, Ueno teaches in response to a determination that the requested

video asset is to be provided from the remote head-end to the requesting subscriber

equipment via the local head-end, the content session manager of the remote head-end

notifies the server of the remote head-end to transmit the requested video asset to the

local head-end- (One the basis of the directions by the server resources management

control unit 1003, a video is transmitted, via channels 1019 (connection between local

head-end and STB) to STUs – col. 18, lines 20-35, col. 19, lines 20-50).

As for claim 31, Ueno teaches in response to a determination that the server of the local head-end is available to receive the requested video asset from the remote head-end, the server of the remote head-end streams the requested video asset to the local head-end over the inter-server network – Fig. 10, col. 19, lines 20-50, col. 21, lines 40-55, col. 18, lines 20-32.

As for claim 32, Ueno teaches wherein the server of the local head-end received the requested video asset from the server of the remote head-end, wherein the received video asset is stored in the storage (buffer) of the local head-end – col. 18, lines 21-57, col. 19, lines 20-50.

As for claim 33, Ueno teaches in response to a determination that the requested video asset is to be provided directly from the remote head-end to the requesting subscriber equipment, the content session manager of the remote head-end requests the stream session manager of the remote head-end to allocate bandwidth for providing the requested video asset to the requesting subscriber equipment– col. 18, lines 21-57, col. 19, lines 20-50.

As for claim 34, Ueno teaches wherein the stream session manager of the remote head-end notifies the server of the remote head-end to stream the requested

video asset to the requesting subscriber equipment– col. 18, lines 21-57, col. 19, lines
20-50.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sumaiya A. Chowdhury whose telephone number is

(571) 272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
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you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2623

    /Sumaiya A Chowdhury/

    Examiner, Art Unit 2623